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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,873	09/23/2003	Guillaume Guzman	SP02-152	2607
22928	7590	08/13/2004	EXAMINER	
CORNING INCORPORATED			DICKEY, THOMAS L	
SP-TI-3-1				
CORNING, NY 14831			ART UNIT	PAPER NUMBER
			2826	

DATE MAILED: 08/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/668,873

Applicant(s)

GUZMAN ET AL.

Examiner

Thomas L Dickey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 15-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☒ Claim(s) 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>09/23/2003</u> . | 6) <input type="checkbox"/> Other: _____  |

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## **DETAILED ACTION**

1. The amendment filed on 06/28/2004 has been entered. Applicant should note that there is a disagreement between Applicant's remarks and Applicant's "clean copy" of claims. Applicant remarks that he intends to cancel claims 15-18 but in the "clean copy" Applicant withdraws the same. As a result, the "clean copy" takes precedent and claims 15-18 are withdrawn but not cancelled.

### ***Election/Restriction***

2. Applicant's election without traverse of Group II, claims 1-14 and 19, in the Paper filed 06/28/2004 is acknowledged.

### ***Oath/Declaration***

3. The oath/declaration filed on 03/08/2004 is acceptable.

### ***Drawings***

4. The formal drawings filed on 09/23/2003 are acceptable.

### ***Priority***

5. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

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***Information Disclosure Statement***

6. The Information Disclosure Statement filed on 09/23/2003 has been considered.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

A. Claims 1-9 and 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by OHTAKA et al. (5,108,843).

Ohtaka et al. discloses a thin film transistor (TFT) suitable for applications selected from the group consisting of liquid crystal displays (LCDs) and light emitting diodes (LEDs) comprising a glass, glass-ceramic, or ceramic substrate 201 suitable for use in electronic and integrated circuits; a layer of refractory polycrystalline material 202 formed on at least a portion of the substrate 201; and a layer of polycrystalline silicon 203 formed on the refractory layer. With regard to claims 4-7,13, and 14, Ohtaka et al. discloses that the refractory material 202 may be CVD deposited polycrystalline zirconia ( $\text{ZrO}_2$ ) an oxide characterized by having low thermal conductivity and high electrical permittivity, having at least one crystal parameter (lattice constant, as applicant admits at paragraph 0045 of the instant application) close to that of crystalline silicon, and

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comprising an element (Zr) selected from the group consisting of Al, Mg, Ti, Zr, Y, Ca, Mo, Ce, Hf, Ta, B, V and a combination of these. With regard to claims 8 and 9, Ohtaka et al. discloses that the refractory material 202 may be TiC, SiC, Si<sub>3</sub>N<sub>4</sub> or BN, and thus a carbide, nitride or boride containing Si. Note figure 1 and column 4 lines 3-5, 12-23, and 34-36 of Ohtaka et al.

The applicant's claims 11 and 13 do not distinguish over the Ohtaka et al. reference regardless of the process used to form the refractory material, because only the final product is relevant, not the recited processes of sol-gel technique or anodic oxidation, electron, ion, atom or laser beam processes.

Note that a "product by process" claim is directed to the product per se, no matter how actually made. In re Hirao, 190 USPQ 15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Fessmann, 180 USPQ 324; In re Avery, 186 USPQ 161; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); and In re Marosi et al., 218 USPQ 289, all of which make it clear that it is the patentability of the final product per se which must be determined in a "product by process" claim and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. Note that applicant has the burden of proof in such cases, as the above caselaw makes clear. See also MPEP 706.03(e).

**B.** Claims 1-7 and 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by FORK et al. (5,733,641).

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Fork et al. discloses a thin film transistor (TFT) suitable for applications selected from the group consisting of liquid crystal displays (LCDs) and light emitting diodes (LEDs) comprising a glass, glass-ceramic, or ceramic substrate 100 suitable for use in electronic and integrated circuits; a porous layer of CVD or sol-gel deposited refractory polycrystalline material 102 formed on at least a portion of the substrate 100; and a layer of polycrystalline silicon 108 formed on the refractory layer, wherein the refractory material 102 may comprise Mg, Al, and Zr, which are selected from the group consisting of Al, Mg, Ti, Zr, Y, Ca, Mo, Ce, Hf, Ta, B, V and a combination of these. With regard to claims 5-7, and 14, Ohtaka et al. discloses that the refractory material 102 may be polycrystalline zirconia ( $\text{ZrO}_2$ ) an oxide characterized by having low thermal conductivity and high electrical permittivity, having at least one crystal parameter (lattice constant, as applicant admits at paragraph 0045 of the instant application) close to that of crystalline silicon. Note figures 1, 2A-2E, and column 2 lines 6-16 and column 4 lines 8-44 of Fork et al.

The applicant's claim 13 does not distinguish over the Fork et al. reference regardless of the process used to form the refractory material, because only the final product is relevant, not the recited processes of electron, ion, atom or laser beam processes.

Note that a "product by process" claim is directed to the product per se, no matter how actually made. In re Hirao, 190 USPQ 15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Fessmann, 180 USPQ 324; In re

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Avery, 186 USPQ 161; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); and In re Marosi et al., 218 USPQ 289, all of which make it clear that it is the patentability of the final product per se which must be determined in a "product by process" claim and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. Note that applicant has the burden of proof in such cases, as the above caselaw makes clear. See also MPEP 706.03(e).

#### ***Allowable Subject Matter***

8. Claim 19 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas L Dickey whose telephone number is 571-272-1913. The examiner can normally be reached on Monday-Thursday 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J Flynn can be reached on 571-272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**TLD**  
**07/04**

  
**Minhloan Tran**  
**Primary Examiner**  
**Art Unit 2826**